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The basic point to be considered in establishing a curriculum for elementary and secondary schools in the arid areas of the world is relevancy. Usually, the educational system of an area reflects the dominant culture of the political power in control. However, the educational system of the dominant culture might not be relevant to the people of arid or rural areas. This situation can be seen by comparing the public schools of Nogales, Sonora, Mexico and Nogales, Arizona. On the Mexican side of the border the schools are controlled in part from Mexico City and reflect a strong French tradition of intellectual development and no practical application of knowledge. In Nogales, Arizona, the schools reflect more local control, and the curriculum is more flexible, pragmatic, and meaningful to the population affected by it. To be more effective, any curriculum should be developed from data collected about the learner which reflect the following: (1) biological and psychological factors; (2) sociocultural factors; (3) subject matter content; (4) philosophy of education; and (5) learning theory. (RH)

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ELEMENTARY AND SECONDARY EDUCATION IN ARID LANDS

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ELEMENTARY AND SECONDARY EDUCATION IN ARID LANDS

The topic of this paper, Elementary and Secondary Education in Arid Lands, is a broad and difficult topic to discuss within the resources and time available. In considering this topic, I have chosen to focus on the importance of curriculum development which is an essential and technical aspect of the educational enterprise. The generalizations have been somewhat modified to accommodate the specific problems of arid land regions which is the focus of this international conference.

This paper is divided into four parts: An Introduction of an overview of the problems of curriculum development is presented, applicable to both elementary and secondary education taking into consideration the diversity of population in the vast regions of the world which are classified as arid lands. Part One of the paper is devoted to a discussion of the influence of cosmopolitan or metropolitan powers in the development of educational systems in arid land regions. Part Two of the paper focuses on education as a social force in social reconstruction through a restructuring of educational programs and systems. Part Three is concerned with the principles of curriculum development out of which an instructional program might emerge which reflects greater meaning and depth for populations found in the arid regions of the world.

INTRODUCTION

In considering elementary and secondary education in arid lands, I begin from a frame of reference which is American in origin and reflects

the educational position found among professional educators in the United States. With this frame of reference, any kind of cross-cultural analysis would indicate a previous experiential background which deals with education in a scientific and technological culture. It is formulated and patterned after a Western philosophy which indicates man's control over his environment rather than man's obsequious accommodation to it. This principle distinction between the function of man in relation to his environment influences the educational system. For the Western world, that system would reinforce and support the notion that man may fashion his destiny and is not controlled by external forces. This philosophic mood reflects a pattern of cultural determinism and possible reconstruction.

It is in this frame of reference that education becomes a symbolic institution and a practical institution by which education becomes the vehicle for both cultural transmission and cultural innovation, as well as national development. As a social action change agent, the educator, through the institution, becomes a factor in total cultural reconstruction, and the process of acculturation becomes one of national policy as well as local concern.

The wide regions of the world which are included in the arid lands classification can be found on every continent and include every race and most ethnic groups. This wide distribution of population and its variety of philosophic commitment and social goals makes any one paper totally inadequate for any kind of depth analysis in relation to elementary or secondary education. However, there are basic social concerns and principles of curriculum development which are presented in this paper which can be useful in the analysis and development of educational programs and systems, and which ought to be reflected in the emerging pattern of elementary and

secondary education in whatever region and among whatever people. For the purposes of this paper, curriculum is defined as those experiences which are purposefully designed by the school and which can be evaluated.

INFLUENCE OF METROPOLITAN POWERS ON EDUCATION

In doing research for this paper, I found very little dealing with the human ecology or demographic data out of which I could infer much in relation to the establishment of educational programs or systems. In my research in cross-cultural and comparative education, it is apparent that the dominant metropolitan power which at one time may have had political or even religious control over the region under analysis still tends to influence the development of the people within that environment through the institutional systems that were established.

An interesting example of the influence of political pressure on institutional development can be found here in the arid region of the North American continent, known as the North American Desert. Three segments of this region are identified on the Meigs maps that were distributed as a part of the study packet in relation to this conference. One region is known as the Great Basin Area; the second region is called the Sonora Desert; and the third region, the Chihuahua Desert. Only the Great Basin Area lies totally within the political boundaries of the United States. Both the Sonora Desert and the Chihuahua Desert cross the international line, which is located only sixty-five miles from Tucson.

A visit to the public schools on the border in Nogales, Arizona, would reflect what might be classified as fairly typical American schools in relation to the curriculum instructional materials, teacher education, administration, and tax support. Just across the border in Nogales, Sonora,

typical Mexican schools in relation to curriculum, the instructional program, teacher preparation, and the administration of education can be observed. This distinction points out the impact and influence of a metropolitan power, a political power, on the development of education in this contiguous population center. This example suggests a generalization that the dominant power, be it political or religious in nature, influences the establishment and development of non-indigenous institutions and tends to modify indigenousness.

Once, while visiting the school program in Djubuti, French Somaliland, the Director of Education was very proud of the notion that the curriculum of the beautiful state-supported boarding school, designed to educate the nomadic Somalis, was the same curriculum of schools in cosmopolitan Paris or metropolitan France or any of her overseas areas. Little concern was given to local problems or cultural factors. The impact of this kind of control and influence on educational development reflects some of the problems that are being faced by the population within some arid lands. Education has not become an ameliorating factor but rather a cultural imposition factor reflecting a culture which may not have any relevance to the environment nor to the population living there.

In the developing or developed arid land areas, such as Arizona and Sonora, the educational system has become highly sophisticated. It reflects the dominant political culture which is nationalistic in focus. The function of the educational system is to prepare the people for fuller participation as responsible citizens within the society of the region under its control. It is a curious phenomena that the school systems as close together as the public schools in Nogales, Sonora, and the public schools in Nogales, Arizona,

with a very similar ethnic and language group, reflect such diversity in commitment, political philosophy, educational programming, and structure. The elementary schools on the Mexican side of the border still reflect a strong French tradition of intellectual development, rather than pragmatic application of principles to solve daily problems. Their structure of education is highly centralized in relation to administrative control, curriculum development, examinations, and text materials. The control is not only from Hermosillo, the state capital, but as far away as the Minister of Education in Mexico City. The Nogales, Sonora school system functions in the fashion of all Mexican education with federal control dominating the system of education throughout the Republic of Mexico.

Across the border in Nogales, Arizona, the educational system tends to reflect the State of Arizona system which is one of fifty systems in the United States, similar in purpose, in structure, and in function but reflecting a great deal of local control. While the text materials found in Nogales, Arizona, are similar to those used in Tucson, in Phoenix, in Sacramento, in Walla Walla, and in New York City, the method for use, the examinations, and the administration of each system is a local concern. The Nogales, Arizona curriculum tends to be more flexible, pragmatic, and meaningful to the population affected by it. The notion of local control and option is the major distinction between the two systems.

In regions where local or indigenous cultural factors influence educational decisions, such important factors as social stratification, use of resources, amount of money and facilities devoted to education, the permissiveness of parallel systems of education which are non tax-supported, and philosophic concerns of the function and purposes of education

must be taken into consideration. An understanding of the strength of the local or indigenous cultural pattern and institutions, as well as agents of socialization is vital in developing education for relevancy.

Using the states of Sonora and Arizona as an example, in this relatively highly developed region of the world, the dominant culture has set the pattern for educational policy and control. Little remains of the indigenous educational system which may have existed before discovery and occupation of the European or American. Whatever was indigenous in the educational process or socialization is residual within familial groups, extension of family to clan groups, formal or informal organizations which still exist within the pattern of socialization. This residual of nativistic education reflecting the folk culture can be found in relation to the persistence of certain health practices, in special ceremonial occasions, and within the informal educational structure which constitute the development of roles and status within the sub-cultural groups existing in this arid region of the North American Desert. Wide diversity exists among Indian groups, both Mexican and North American, and among Mexicans who are in a transitional stage between the folk culture and the fully Mexicanized culture south of the border, to a distinction between a folk culture and the fully Americanized culture found north of the border.

EDUCATION AS A SOCIAL FORCE IN RESTRUCTURING

The notion of education as a social force exists on a continuum. At one extreme, education can be considered as an input process or pouring-in of information, attitudes, skills, and behavior. On the other end of the continuum, education can be seen as output, an outpouring of information,

skills, attitudes, and behavior waiting to be released. One point of view considers "good" education to be prescribed and fairly restrictive with the notion that more and more of the "right" things will liberate man. The other point of view is that if the learner is free to use whatever resources are available, then he will liberate himself.

Education as a social force would suggest that as an institution it can ameliorate inadequate situations and function somewhere in the middle of the continuum using input as a motivating factor for indigenous development. The restructuring then becomes a growth process and not an imposition. The process of social change through education places education as a key factor in social action programs. But the culture for change must be carefully nurtured, especially in a traditionally oriented society.

Cultural factors which inhibit or accelerate educational development should be carefully considered. Ignoring those factors which inhibit change present real problems in the development of education. The introduction of new techniques of health and sanitation practices for instance, which might violate local tradition or cultural patterns would find strong rejection if these changes were not carefully introduced. Concern for the principles of scientific social change should be recognized and these principles ought to be reflected in the process of curriculum development. Cultural factors influence the perception of education, the notion of its mission, and the function of the system.

In many regions of the world, language factors and symbolic functioning become important variables in developing educational programming. Decisions must be made regarding the value of bilingualism and symbolic development which might result in a fracturing of educational effort toward full language

acquisition as expected and reflected by the dominant power. The influence of the metropolitan power on language and the acquisition of that language by the local population would strongly influence the mobility pattern of members of that society toward greater opportunity, nationalistic development, and the economics of efficiency. In working with people who are nomadic, rural, and agrarian in character, educational programs which focus on intellectual development without concern for daily application would find little acceptance or little relevance to most of the population.

Curriculum development for elementary and secondary education must focus on both long range as well as short range goals in order to involve and commit people to education as a vehicle for political and social change. Resources within the environment should be capitalized upon in order to make the educational system as little dependent on external factors and forces as possible, so that the educational program might be self-sufficient and reflect the local environment with its great possibilities for further use and wise exploitation.

In this technological age, techniques, instruments, and inventions exist where man can control meteorological factors in his environment. The great growth of this North American Desert region of the world began after the development of economical cooling systems which made hot weather living tolerable. It further included the development of water resources and transportation systems which permitted easy accessibility of both people and goods into this region of the world.

What happened to this region of the world can happen to other arid regions of the world as these resources are developed and man learns through control of his environment that he can function fully in a

technological age regardless of climatic conditions external to him. But this suggests a curriculum of change, and education as a vehicle for social and economic reconstruction. Education in arid lands which reflect systems of education which are theoretical in nature and not pragmatic tend to function as an excluding agency permitting only those people access who have some insight and some opportunity for symbolic reasoning and intellectual skills.

In an age where people move from folk culture to technological culture and bypass the industrial revolution, this process of development must be considered as a factor in educational planning. The important skills required for symbolic and intellectual tasks must be seen as emanating from concrete and practical situations where the learner can see relevance to the task in relation to his everyday life pattern.

CURRICULUM DEVELOPMENT

The development of the curriculum for elementary and secondary education, or for any education program for that matter, should follow certain principles which Ralph Tyler and Hilda Taba originally spelled out in their work on curriculum development in the early 1950s at the University of Chicago. These principles tend to generalize what curriculum specialists had been considering for some time. Any curriculum should be developed from data collected about the learner which reflects the following:

1. Biological and psychological factors
2. Socio-cultural factors
3. Subject matter content
4. Philosophy of education
5. Learning theory

The factors which Tyler and others have not included, but which are essential for our consideration especially where curriculum development in the world has tended to be non-arid land in origin, are the factors which reflect the geographical and political influences. While conservation and civic responsibility are as much an urban and non-arid land concern, special attention must be focused on these factors for any meaningful curriculum development for arid land regions.

In considering curriculum development in the arid lands region, the UNESCO publication entitled, Guidebook to Research Data for Arid Zone Development, Arid Zone Research IX, published in 1957, spells out in Chapter One in the section on Human Factors some of the questions which would help the curriculum developer in gathering data about the learner in the region in which he is operating. The biological and psychological, and the socio-cultural background of the learner, which are strongly influenced by geographical and political factors form the foundation of curriculum development and the basis for the instructional program. Especially in arid land regions, the whole notion of conservation, the wise use of natural resources; problems related to nutrition, shelter, and clothing, to health, and sanitation, to economic development, to the wise development of resources such as water, and other forms of energy should be included in the program of instruction. To have curriculum developed in the distant capitals of the political states which control arid lands would result in an alien system of education and an instructional program that may be completely irrelevant to the region of the world we are considering in this paper.

Subject matter, while more universal than foundational factors,

should be selected and influenced by the factors reflecting the foundations of the curriculum. The seclection of appropriate subject matter or content is very important to the success of an educational program. To present in subject matter notions of health education which the local inhabitants might find offensive or impossible to fulfill would not only alienate the population from school or program participation, but be of such irrelevancy that it would have no meaning to the local environment.

One of the basic principles of educational development suggests that we begin where the learner is, and with who the learner is, so that subject matter, whether history, or geography, or health; whether in mathematics, or in science, or in social areas should reflect the learner's background and environment in order to have meaning and to be effective.

In some nations, the philosophy of education reflects in general the political or social philosophy of a nation. In a nation as complex as developed nations, the philosophy of education probably is influenced by national goals as well as local cultural, religious, and personal goals. The philosophy of education should be carefully considered. The school can be seen as either a reflection of the cultural values or as an institution for social change and social improvement. The use of education as an institution and its goal direction reflects the philosophic commitment expressed in the curriculum.

This is an important factor because the philosophy of a people reflects in large measure cultural variables which have great impact on acceptance and rejection of systems of education. If education is seen as a social agency in the redevelopment of a region and a restructuring of its culture, then it becomes an institution involved in social change and social action.

It no longer is an isolated intellectual activity but a very involved political, social, and economic activity, and one which has great impact and importance to the people in the region in which it is operating.

The theory of learning and how people learn is significant in the development of curriculum. Notions about intelligence and the nature of intelligence control the learning process. Too often learning is considered a rote memorization process, rather than an intellectual skill where thinking is the major focus, and scientific problem solving a way of achieving solutions. Pragmatically oriented thinking and learning tend to have greater impact than the accumulation of data and facts through rote memory which may not have relevance to daily activity.

These six areas; the biological and psychological, the socio-cultural, the geographic and political, the subject matter or content, the philosophy of education, and the theory of learning should be the basis of curriculum development. The instructional objectives of an educational system and program should reflect the data collected in these areas and suggest media, materials, and supplies necessary to fulfill the objectives of the curriculum. It determines the enabling activities such as administration and teaching resources and other logistics. The understanding of the foundation approach to curriculum development recognizes that learning is a multiple activity, and many factors influence the acquisition of knowledge, attitudes, and skills. No longer is learning considered to be dependent upon traditional or classical patterns.

SUMMARY

In this paper the notion was suggested that elementary and secondary education in arid lands tends to reflect the dominant culture of the

political power in control of the land area under investigation. The culture of the dominant power and the culture of the local inhabitants, while discontinuous perhaps in some aspects, influence the meaning of education and the function of the educational institutions. The informal and formal educational systems operate as agencies for the transmission of knowledge and culture. Education as a social force in social change was discussed and considered. The function of education as a factor in developing arid regions of the world must reflect the philosophic commitment of education as an institution for redevelopment.

The principles of curriculum development applicable to any region, to any people, and which would more carefully and scientifically help develop the instructional program through the application of these principles was considered. This included an understanding of the biological and psychological, and socio-cultural factors or conditions of the learner as modified by the geographical and political milieu. It included an understanding of the subject matter or content, the influences of the philosophy of education and learning theory on the total educational enterprise. Through these concerns an instructional program can be developed which has meaning and relevance.

The notion of elementary and secondary education as developed nations have institutionalized it may even be misleading when considering some of the groups of people living as nomadic or agricultural people in arid regions of the world. But the process of education, its mission and purpose, may be that of liberating a people from climatic control and ignorance in relation to their own possibility. It may mean developing a people by the educational process as a people ready to move into the last quarter of the Twentieth Centruy as more fully functioning people

contributing to the world resources in an increasing degree. This suggests that man has control and that environment is subject to man through technological discoveries and inventions as well as mental skills which make it possible for man to be free. The purpose of this kind of education is man-centered and functions most fully in freedom.

BIBLIOGRAPHY

Dickson, B.T., editor. Guidebook to Research Data for Arid Zone Development. Paris: UNESCO, 1957.

Taba, Hilda. Curriculum Development, Theory and Practice. New York: Harcourt, Brace and World, Inc., 1962

Tyler, Ralph, W. Basic Principles of Curriculum Development. Chicago: University of Chicago Press, 1950.

UNESCO. Arid Zone Research-VIII. Human and Animal Ecology. Paris: UNESCO, 1957.